DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

OPEN-FILE REPORT
81-27-Q

Geochemical Symbols

(size of symbol explained on histogram)

△ Anomalous copper value (figure 1)

□ Anomalous lead value (figure 2)

○ Anomalous barium value (figure 3)

DISCUSSION

This map shows the distribution and abundance of copper, lead, and barium in 296, minus 80-mesh stream-sediment samples collected during the 1978-1979 field seasons in the West Chichagof-Yakobi Wilderness Study Area, Sitka quadrangle, southeastern Alaska.

The area of this project amounted to approximately 600 square miles (1800 km^2). The stream sediments were collected from active stream channels, draining areas approximating 2 square miles (6 km^2).

The preparation of the stream-sediment sample prior to analysis consisted of sieving to minus 80-mesh (0.2 mm) and pulverizing to minus 200-mesh (0.075 mm). The samples were analyzed by semiquantitative emission spectroscopy (Grimes and Marranzino, 1968).

From the analytical data the analyses were compiled and used in preparing the histograms and geochemical map. The histograms were used to identify the anomalous values for each element.

A listing of results from the analysis of various sample media, collected in this Wilderness Study Area appears in Hessin and others, (1980).

REFERENCES CITED

Grimes, D. J., and Marranzino, A. P., 1968, Direct-current and alternating-current spark emission spectrographic field methods for the semiquantitative analysis of geologic materials: U.S. Geological Survey Circular 591, 6 p.

Hessin, T. D., Speckman, W. S., Crenshaw, G. L., Hoffman, J. D., and Cooley, E. F., 1980, Analytical results of various types of samples taken in the West Chichagof-Yakobi Wilderness Study Area, Sitka quadrangle, southeastern Alaska, U.S. Geological Survey Open File Report 80-905.

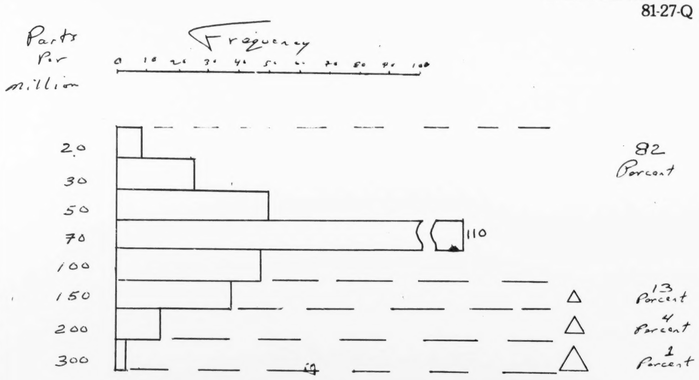

Figure 1.--Histogram showing copper in 296, minus 80 mesh (0.2 mm) stream-sediment samples in the West Chichagof-Yakobi Wilderness Study Area. Triangles indicate anomalous concentrations and class percentages computed on total sample population. Analysis by optical emission spectroscopy (Grimes and Marranzino, 1968).

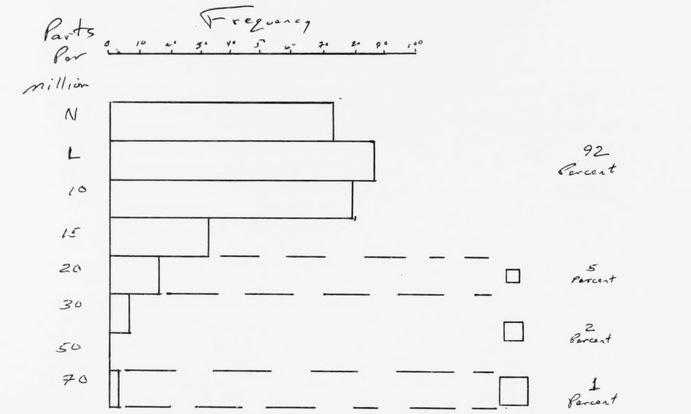

Figure 2.--Histogram showing lead in 296, minus 80-mesh (0.2 mm) stream-sediment samples from the West Chichagof-Yakobi Wilderness Study Area. Squares indicate anomalous concentrations with class perecentages computed on total sample population. Analysis by optical emission spectroscopy (Grimes and Marranzino, 1968).

N, not detected at limit of detection

L, detected but below limit of determination

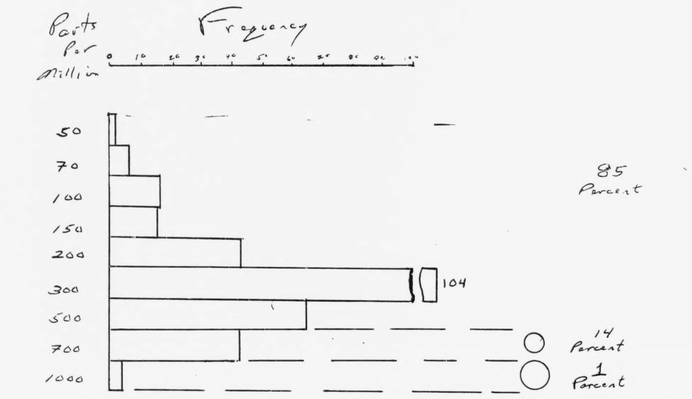

Figure 3.--Histogram showing barium in 296, minus 80-mesh (0.2 mm) stream-sediment samples in the West Chichagof-Yakobi Wilderness Study Area. Circles indicate anomalous concentrations with class percentages computed on total sample population. Analysis by optical emission spectroscopy (Grimes and Marranzino, 1968).

QUADRANGLE LOCATION

INDEX SHOWING LOCATION OF STUDY AREA

U.S. Geological Survey Open File Report 80-905.

Base from U. S. Geological Survey 1:250,000, 1951
Sitka; Mt. Fairweather

SCALE 1:125,000
2 0 2 4 6 8 MILES
2 0 2 4 6 8 KILOMETERS

Geology simplified by B. R. Johnson and S. M. Karl, 1981

GEOCHEMICAL MAP SHOWING THE DISTRIBUTION AND ABUNDANCE OF COPPER, LEAD, AND BARIUM IN STREAM-SEDIMENT SAMPLES IN THE WEST CHICHAGOF-YAKOBI WILDERNESS STUDY AREA, SITKA QUADRANGLE, SOUTHEASTERN ALASKA

By

T.D. Hessin, M.G. Maslowski, and G.W. Day

1981

Studies Related to Wilderness

The Wilderness Act (Public Law 88-577, Sept. 3, 1964) and related Acts require the U.S. Geological Survey to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a geochemical survey of the West Chicagof-Yakobi Wilderness Study Area, Sitka quadrangle, southeastern Alaska.

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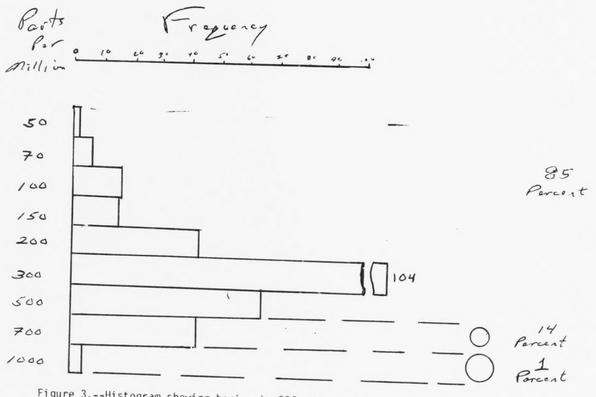

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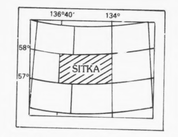
INDEX MAP SHOWING LOCATION



INDEX SHOWING LOCATION OF STUDY AREA

CORRELATION OF MAP UNITS

Qal		QUATERNARY
Tf	Tm	TERTIARY(?)
Kd		CRETACEOUS(?)
Ks		CRETACEOUS
Kkb		CRETACEOUS
KJf	KJm	CRETACEOUS AND JURASSIC
Trw		TRIASSIC(?)
Trg		TRIASSIC(?)
MzPzu		MESOZOIC AND PALEOZOIC(?)

LIST OF MAP UNITS

Qal	ALLUVIAL DEPOSITS--Undivided
Tf	FELSIC PLUTONIC ROCKS--Dominantly tonalitic
Tm	MAFIC PLUTONIC ROCKS--Dominantly gabbroic
Kd	DIORITE SILL--Extensively altered
Ks	SITKA GRAYWACKE
Kkb	KELP BAY GROUP--Metasediments and metavolcanics
KJf	FELSIC PLUTONIC ROCKS--Dominantly granodiorite
KJm	MAFIC PLUTONIC ROCKS--Dominantly quartz diorite, diorite, and gabbro
Trw	WHITESTRIPE MARBLE
Trg	GOON DIP GREENSTONE
MzPzu	UNDIVIDED METASEDIMENTARY--Metavolcanic and metaplutonic rocks